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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,062	10/06/2003	Tomio Hirano	243521US6	4093

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EXAMINER	
NORRIS, JEREMY C	
ART UNIT	**PAPER NUMBER**
2841	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/678,062	HIRANO ET AL.	
	Examiner	Art Unit	
	Jeremy C. Norris	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *4-6 and 10-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 7-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings were received on 17 October 2006. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2001/0011605 A1 (DiStefano).

DiStefano discloses, referring primarily to figures 1-3, a multilayer wired board including at least part of a electrical circuit board in which a plurality of wired boards (80, 92) are stacked so as to face their wired surfaces towards each other, comprising: electrical connection parts (81, 95) between said multilayer wired boards are connected through an elastic conductive material part (70) adhered to one of said wired boards ([0071]); and a double-sided adhesive material part (50) is provided between the plurality of wired board to adhere them together ([0063]), [0073]), and an opening is formed in the double-sided adhesive material part so as to surround at least part of a peripheral edge portion of said elastic conductive material part to seal said plurality of multilayer wired boards [claim 1], wherein said elastic conductive material part is formed

in a convex shape (best seen in figure 3), the bottom of said elastic conductive material part is adhered to one of said wired boards and the top of said elastic conductive material part is adhered to an electrical connection part of other side of said wired board, whereby electrical connection is established ([0071]) [claim 2].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over DiStefano in view of US 6,245,674 B1 (Sandhu).

DiStefano discloses the claimed invention as described above except DiStefano does not specifically disclose that the height from the bottom to the top of said elastic conductive material is set to 200-400 μm [claim 3]. However, it is well known in the art to size an electric connection part with an aspect ratio (length/diameter) of between 1 and 5 as evidenced by Sandhu (col.1, lines 15-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to form the elastic conductive material in the invention of DiStefano with an aspect ratio of 1 – 5 as is known in the art and evidenced by Sandhu. The motivation for doing so would have been to allow for an increase in circuit density. Moreover, since DiStefano teaches the diameters of the elastic conductive material to be 100μm ([0078]), it is clear that the modified invention of DiStefano teaches wherein the height of the elastic conductive part is from 100μm to 500μm as predicated by the aspect ratio.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2001/0020985 A1 (Hinata) in view of DiStefano.

Hinata discloses, referring primarily to figure 1, a touch panel (1) comprising a light transmission first board (8a) having a light transmission conductive layer (9a) formed as a predetermined pattern thereon and a light transmission second board (8b)

made of a flexible material ([0070]) having a light transmission conductive layer (9b) thereon and opposing said first board by a predetermined distance, wherein: an interposer (7) electrically and mechanically connects the first and second wiring boards. Hinata does not specifically state that the interposer comprises electrical connection parts between said first board and said second board being connected through an elastic conductive material part adhered only to said first board, a double-sided adhesive material part provided between the plurality of wired boards to adhere them together, and an opening being formed in the double-sided adhesive material part so as to surround at least part of a peripheral edge portion of said elastic conductive material part to seal said first board and said second board [claim 7]. However, DiStefano teaches an interposer comprising electrical connection parts (81, 95) between a first board (80) and a second board (92) being connected through an elastic conductive material part (70) adhered only to said first board ([0071]), a double-sided adhesive material part (50) provided between the plurality of wired boards to adhere them together, and an opening being formed in the double-sided adhesive material part so as to surround at least part of a peripheral edge portion of said elastic conductive material part to seal said first board and said second board. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the interposer taught by DiStefano as the interposer in the invention of Hinata. The motivation for doing so would have been to use an interposer with highly reliable mechanical and electrical connection (DiStefano [0071]). Additionally, the modified invention of Hinata teaches wherein said elastic conductive material part is formed in a convex shape

(DiStefano figure 3), the bottom of said elastic conductive material part is adhered to one of said wired boards and the top of said elastic conductive material part is adhered to an electrical connection part of other side of said wired board, whereby electrical connection is established (DiStefano [0071]) [claim 8].

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata in view of DiStefano as applied to claim 7 above, and further in view of Sandhu.

The modified invention of Hinata teaches the claimed invention as described above including wherein the elastic conductive material part is formed in a convex shape (DiStefano figure 3) except the modified invention of Hinata does not specifically teach that the height from the bottom to the top of said elastic conductive material is set to 200-400 μm [claim 9]. However, it is well known in the art to size an electric connection part with an aspect ratio (length/diameter) of between 1 and 5 as evidenced by Sandhu (col.1, lines 15-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to form the elastic conductive material in the invention of Hinata as modified by DiStefano with an aspect ratio of 1 – 5 as is known in the art and evidenced by Sandhu. The motivation for doing so would have been to allow for an increase in circuit density. Moreover, since Hinata as modified by DiStefano teaches the diameters of the elastic conductive material to be 100μm ([0078]), it is clear that the twice-modified invention of Hinata teaches wherein the height of the elastic conductive part is from 100μm to 500μm as predicated by the aspect ratio.

Response to Arguments

Applicant's arguments with respect to claims 1-3 and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCSN

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